ABSTRACT OF THE DISCLOSURE

An echo cancellation device relies on the known characteristics of the sync frame to monitor, update in an off-line fashion and determine the accuracy of an echo canceller in, for example, a modem, such as an ADSL modem. Specifically, time domain samples are read from the transmit (Tx) and receive (Rx) paths of the modem. These samples are stored in memory. When the sync frame has received a predetermined number of the same Tx samples and Rx samples, the samples are stored. Running averages, over the sync frames, of the TX and RX samples are maintained. These averages are subtracted from a sync frame of samples, to allow LMS updating of the echo canceller taps, free of extraneous signals. Updating, i.e., tracking of changes in the echo channel, is done for the echo canceller in an off-line fashion. The coefficients for the in-line version are updated, while the off-line version is updated over several sync frames. Periodically, the performance of the off-line version is compared with the in-line version. The coefficients of the in-line version are replaced by those of the off-line version only if it is determined the off-line version, which is tracking echo channel changes, has better performance. After replacement of the in-line coefficients, the off-line tracking is continued in the off-line version.